

Remarks

The Final Office Action (Paper No. 8) mailed April 12, 1999 has been reviewed. The Applicants submit that in light of the following response, the present claims are in better form for allowance, or alternatively, for consideration on appeal. Upon acceptance and entry of the proposed amended claims the status of the pending claims will be as follows:

<u>Claim</u>	<u>Status</u>
18. (Amended)	Independent.
19. (Added 7/13/98)	Depends from claim 18.
20. (Added 7/13/98)	Depends from claim 18.
21. (Amended)	Independent.
22. (Added 7/13/98)	Depends from claim 21.
23. (Added 7/13/98)	Depends from claim 21.

Rejection of Claims under 35 U.S.C. §102 (e)

Claims 18, 21, and 24 were rejected under 35 U.S.C. §102(e) as being unpatentable over U.S. Patent No. 5,422,770 issued to Alt ("Alt '770") as follows:

As per claim 18 and 21, Alt (U.S. 5,422,770) discloses a disc drive including a disc and an actuator assembly comprising a rigid actuator arm which extends (vertical thickness) in a direction substantially parallel supporting a read/write head and a disc snubber affixed to the rigid actuator body comprising a disc snubber arm which extends along a portion of the rigid actuator arm and adjacent an outer non-recording surface of the disc over a desired range of actuator arm motion wherein the read/write head is moved between the inner and outer diameters, the disc snubber limiting deflection of the disc resulting from application of non-operational shock to the disc drive to minimize contact between the disc and the arm.

As per claim 24, Alt (US 5,422,770) discloses a rotatable disc (102); a pivotal actuator supporting a read/write

head in a data reading and writing relationship with the disc and limit means (410 and/or 124) supported by the actuator for limiting deflection of the disc in response to application of a non-operational shock to the disc drive (100).

(4/12/99 Office Action, pages 2-3).

The Applicants respectfully traverse the foregoing rejection and submit that claims 18, 21 and 24, as amended, are patentable over the teachings and suggestions of Alt '770. Applicants point out the well established rules that the claims, and not the specification serve to define the invention and that whereas claims are to be interpreted in light of the specification, it is improper to import extraneous limitations from the specification into the claims. Accordingly, in traversing the various rejections of the claims, although general references will be made to the specification of the present application, the Applicants will focus upon the explicit language of the claims and compare this language to what would be fairly taught or suggested by the cited reference to one of skill in the art.

Disc to actuator arm contact can induce a shock wave of sufficient magnitude to travel down to the gimbal assemblies and heads, causing the heads to flex up off of the landing zones as a result of the relatively flexible gimbal assemblies to which the heads are attached. The heads can thus obtain significant velocities as they accelerate away from and then back toward the disc, resulting in "head slap." When such velocities are sufficiently severe, damage can occur to the heads and to the surfaces of the discs as the heads strike landing zones. Moreover, should a head tilt during such liftoff, which often occurs, an edge or a corner of the head can strike the disc surface, increasing probability of damage to the head or the disc. Therefore, protecting the gimbal assembly itself from deflection can

prevent the head to disc contact. However, a disc snubber placed within the gimbal assembly is highly susceptible to displacement upon the application of a mechanical force because of the gimbal assembly's flexibility. Consequently, affixing a disc snubber on a rigid medium better ensures that the disc snubber remains effectively stationary even upon the application of a mechanical force.

The present patent application discloses a method and apparatus for protecting components of a disc drive from damage due to non-operational mechanical shocks by dampening contact between a surface of an actuator arm and a surface of a disc. To this end, a disc snubber affixed to the rigid actuator body and extending along a portion of the rigid actuator arm dampens the contact between the surface of an adjacent disc and the supporting actuator arm when a mechanically induced shock deflects the disc toward the actuator arm and causes deflection (i.e. bending) of the actuator arm itself. (See present specification, p. 14, lines 7-20). Moreover, affixing the disc snubber to the rigid actuator body to extend over a portion of the rigid actuator arm, as opposed to attaching a disc snubber to an underside of a portion of the gimbal assembly, protects from head slap while better ensuring against snubber displacement upon the application of a mechanical shock.

Alt '770 teaches a shock bumper for absorbing forces resulting from non-operational shock and inflicted upon a computer disc drive. In contrast to the present application disclosure, however, Alt '770 attaches the shock bumpers to the base plate 101, or alternatively, to an underside of the load arm 406, a portion of the suspension, i.e. gimbal assembly. (FIG. 4B, column 9, lines 36-38) In particular, Alt '770 discloses a shock bumper

124 attached to the underside of the suspension of actuator 103, the shock bumper 124 functioning to dampen the contact between the disk and the head on the suspension. (Alt '770, column 4, lines 65-66, and Fig. 1B).

The Final Office Action states that the "disc snubber [is] affixed to the rigid actuator body comprising a disc snubber arm which extends along a portion of the rigid actuator arm." (Office Action, p. 2, para. 2). However, the Applicants respectfully traverse such a reading and submit that Alt '770 explicitly fails to teach a disc snubber affixed to a rigid actuator body to extend over a portion of a rigid actuator arm. Instead, Alt '770 discloses a shock bumper 124 attached to the suspension (i.e. gimbal assembly) of the actuator 103 and a retaining structure 121 secured to the base plate 101.

The suspension is a flexible portion of the actuator assembly which extends from the actuator arm and comprises of the load arm 406 and flexure 408. The suspension, therefore, is distinct from the rigid actuator body or the rigid actuator arm and does not qualify as a portion of the actuator arm. Furthermore, Alt '770 does not rely upon the rigidity of the actuator arm itself because the load arm 406 and the load rod 106 are lifted and parked on the cam 107 during the nonoperational mode. Consequently, it is clear Alt '770 does not contemplate a need to protect against actuator arm to disc contact. In fact, Alt '770 explicitly teaches against placing the shock bumper 124 further back on the actuator (such as on the rigid actuator arm), noting that "shock bumper 124 is located near cutout 406a so that shock bumper 124 will contact disk 102 sooner during shock than would otherwise be the case if shock bumper 124 were located where the clearance between the actuator 103 and disk 102 is

greater, making shock bumper 124 more effective in preventing contact between any portion of actuator 103 and disk 102." (Alt '770, col. 9, lines 26-33).

"For a prior art reference to anticipate in terms of 35 U.S.C. §102, every element of the claimed invention must be identically shown in a single reference...These elements must be arranged as in the claim under review,..." *In re Bond*, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990) (*per curium*). Since Alt '770 fails to teach affixing the disc snubber to the rigid actuator body to extend over a portion of the rigid actuator arm itself or any portion thereof, the Applicants respectfully submit that Alt '770 would not lead one skilled in the art to arrive at the invention as claimed by claims 18 and 21, or an obvious variant thereof.

Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection of claim 18 and 21 under 35 U.S.C. §102(e) as being anticipated by Alt '770.

Claim 24 is submitted as being patentable for depending from independent claim 21, which is believed to be patentable for the reasons stated above. Accordingly, reconsideration and withdrawal of the rejection of claim 24 is requested.

Rejection of Claims Under 35 U.S.C. §103(a)

The Final Office Action rejected claims 19, 20, 22 and 23 under 35 U.S.C. §103(a) as being unpatentable over Alt '770.

Claims 19, 20 and 22, 23 are submitted as being patentable, as depending from respective independent claims 18 and 21, respectively, which are believed to be patentable for the above stated reasons. Reconsideration and withdrawal of the rejection of claims 19,

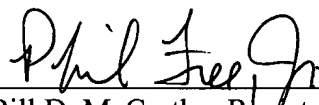
20, 22 and 23 are therefore requested.

It is respectfully submitted that the application as now amended and in light of the discussion above is in condition for reexamination and allowance, or in the alternative, is in better condition for appeal. The Applicants therefore request that the Examiner reconsider the application and allow all claims therein. This amendment is intended to be a complete response to the Final Office Action mailed April 12, 1999. The Examiner is invited to contact the Applicants' attorneys should any questions arise concerning this amendment.

Respectfully submitted,

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